

NAMETKIN, N.S.; PERCHENKO, V.N.; BATALOVA, L.G.

Cyclodimerization of N-ethyleniminosilanes. Dokl. AN SSSR 160:  
1087-1089 F '65. (MIRA 18:2)

1. Institut neftekhimicheskogo sinteza im. A.V. Topchiyeva AN SSSR.
2. Chlen-korrespondent AN SSSR (for Nametkin).

ALEKSANDROVA, I.B.; BATALOVA, L.V.

Effect of vitamin B<sub>6</sub> on cholesterol metabolism; effect of prolonged vitamin B<sub>6</sub> administration on the cholesterol content of organs and tissues in rabbits and rats. Vop. pit. 22 no.5:43-46 S-O '63. (MIRA 17:1)

1. Iz kafedry biokhimii (zav. - dotsent V.I. Yakubovskaya) Meditsinskogo instituta, Karaganda.

BATALOVA, I.V.

Effect of vitamin B<sub>6</sub> on the protein and lipoprotein fractions of  
the blood serum in rats and rabbits. Vop. pit. 23 no.6:73-76  
N-D '64. (MIRA 18:6)

1. Kafedra biokhimii Karagandinskogo meditsinskogo instituta (zav. -  
prof. V.I.Yakubovskaya).

YAROSHEVSKIY, Mikhail Grigor'yevich; GLAZAMI, M., red.; BATALOVA, M.,  
red.; TOROPOV, S.G., tekhn. red.

[Problem of determinism in physiological psychology] Problema  
determinizma v psikhofiziologii XIX veka. Dushanbe, Dushan-  
binskii gos. pedagog. in-t, 1961. 834 p. (MIRA 16:7)  
(PSYCHOLOGY, PHYSIOLOGICAL)

CHERNYSHEV, Vladimir Ivanovich; STAL'MAKOVA, V.A., otv.red.; BATALOVA,  
M.A., red.; BATALOVA, M.A., red.izd-va; PROLOV, P.M., tekhn.red.

[Fauna and ecology of mammals in the bottom-land forests of  
Tajikistan] Fauna i ekologiya mlekepitaiushchikh tugaev  
Tadzhikistana. Stalinabad, Izd-vo Akad.nauk Tadzh.SSR, 1958,  
166 p. (Akademiia nauk Tadzhikskoi SSR. Stalinabad. Trudy,  
vol.85)

(MIRA 12:11)

(Tajikistan--Mammals)

BATALOVA, R. M.

Dissertation defended for the degree of Candidate of Philological Sciences  
at the Institute of Linguistics

"The On'kovskiy Dialect of the Komi-Permyatskiy Language"

Vestnik Akad. Nauk, No. 4, 1963, pp 119-145

BATALOVA, Ye.V.

Some data on the development of medical science in Moldavia.  
Zdravookhraneni 3 no.1:10-14 Ja-F '60. (MIRA 13:6)  
(MOLDAVIA--MEDICINE)

68054

16.6800

S/141/59/002/05/017/026  
E041/E321

AUTHOR: Batalova, Z.S.

TITLE: Floating-point Operations on a Fixed-point Machine

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1959, Vol 2, Nr 5, pp 795 - 801 (USSR)

ABSTRACT: The accuracy with which a number may be represented in a digital computer depends on the capacity of the memory. In a floating-point machine the range of numbers is so large that in programming a wide variety of scientific and engineering problems there is no need for special scaling. With a fixed-point machine numbers must be dealt with which extend beyond the limits of the machine. For this purpose the numbers are stored in certain groups of cells in the memory representing multipliers. Problems are often encountered in which the choice of acceptable scales is difficult or impossible. Such problems can be solved on a fixed-point machine by using special sub-routines in which the whole number is represented in the form:

$$x = 2^q m,$$

Card1/3 where q is a whole number (positive, negative or zero)



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S/141/59/002/05/017/026

**Floating-point Operations on a Fixed-point Machine**

called the order of the number  $x$ ;  $m$  is the mantissa of the number. The mantissa is represented by a succession of symbols forming the number while the order ( $q$ ) indicates the position of the point. The sub-routine is based on a method due to Lyapunov (Refs 3,4). If the mantissa satisfies the inequality  $1/2 \leq |m| < 1$  then  $x$  is said to be normalised. The sub-routines for a number of operations are to be found as follows: normalisation, half-way down p 797; addition and subtraction, foot of p 797; multiplication and division, the fourth paragraph on p 798; taking out an integral part, fifth paragraph on p 798; reading a decimal number, two-thirds down p 799; reading out in decimal form, foot of p 799. The methods described have been used on the GIFTI fixed-point machine, where the point may be located at one of three different points. The last paragraph on p 801 shows a subtraction sub-routine written in machine code.

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Floating-point Operations on a Fixed-point Machine

There are 5 Soviet references.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-tekhnicheskiy institut  
pri Gor'kovskom universitete (Physico-technical Scientific-  
Research Institute of Gor'kiy University)

SUBMITTED: May 13, 1959

Card 3/3

L 8251-66

ACC NR: AR5014369

SOURCE CODE: UR/0271/65/000/005/B073/B073

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika. Svodnyy  
tom, Abs. 5B517

AUTHOR: Antonova, V. M.; Batalova, Z. S.; Ketkov, Yu. L.

TITLE: Some peculiarities in the programing of process flowsheets on a TEVM  
industrial computer

CITED SOURCE: Tr. po vopr. primeneniya "elektron. vychisl. machin v nar. kh-vo.  
Gor'kiy, 1964, 102-104

TOPIC TAGS: digital computer, industrial computer, TEVM computer

TRANSLATION: The principal peculiarities in the flowsheet programing are: large  
volume of information about the product and its billet and the necessity to print,  
on an alpha-numerical device, tabulated output data similar in its shape and  
contents to processing documents. The special TEVM industrial computer permits  
simplifying both the programs porper and the preparation of information. Programs  
prepared on "Ural-4" and TEVM digital computers are compared, as are the  
required operations on the machines BESM, "Strela", "Ural", and TEVM.  
Grand totals of the programs set up from the same algorithm are: 20000 cells for  
"Ural-4" and 4000 cells for TEVM, Bib 2.

Cord 1/1

SUB CODE: 09

UDC: 681.142.35

BATALOVA, Z.S.; BELYUSTINA, L.N.

Study of a nonlinear system on torus. Izv. vys. ucheb. zav.;  
radiofiz. 6 no.1:149-165 '63. (MIRA 16'7)

1. Nauchno-issledovatel'skiy fiziko-tekhnicheskiy institut pri  
Gor'kovskom Universitete.

(Differential equations)

BATALOVA, Z.S.

Nonlinear problem connected with the theory of vibrational subsidence.  
Izv. vys. ucheb. zav.; radiofiz. 6 no.1:166-178 '63. (MIRA 16:7)

1. Nauchno-issledovatel'skiy fiziko-tekhnicheskiy institut pri  
Gor'kovskom universitete.

(Subsidence (Earth movements))

GRACHEV, B.A.; YURIN, Yu.N.; AKNIYEV, G.E.; DUMCHIKOV, G.K.; KUCHUGUROV,  
V.F.; BATAL'SHCHIKOV, M.V.

EBT-1 pipe tachometer has passed plant tests. Izv. vys.  
ucheb. zav.; neft' i gaz 7 no.3:112 '64. (MIRA 17:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-  
konstruktorskiy institut kompleksnoy avtomatizatsii neftyanoy  
i gazovoy promyshlennosti.

PROSVIROV, Ye.S.; SKORNYAKOV, V.I.; BATAL'YANTS, K.Ya. Prinimali  
uchastiye: VOLYA, G.S.; PENTYUKHOV, V.I.; SHMONINA, M.V.  
PASHCHINSKAYA, G., red.isd-va; NIKOLAYEVA, T., tekhn.red.

[Commercial and some noncommercial fishes of the western  
coast of Africa (from the Levrier Bay to the Gulf of Guinea);  
textbook for fishery workers] Promyslovye i nekotorye nepro-  
myslovye ryby zapadnogo poberezh'ia Afriki (ot bukhty Levrie  
do Gvineiskogo zaliva); posobie dlia promyslovikov. Kalinin-  
grad, 1961. 175 p. (MIRA 15:2)

1. Konigsberg. Baltiyskiy nauchno-issledovatel'skiy institut  
morskogo rybnogo khozyaystva i okeanografii. 2. Baltiyskiy  
nauchno-issledovatel'skiy institut morskogo rybnogo khozyaystva  
i okeanografii (for Prosvirov, Skornyakov, Batal'yants).  
(Atlantic Ocean--Fishes)

BATANJAC, D.

SURNAME (in caps); Given Names

Country: Yugoslavia

Academic Degrees: /not given/

Affiliation:

Source: Belgrade, Veterinarski glasnik, No 7, 1961, pp 581-585.

Data: "Economy of Medicament Prophylaxis of Fascioliasis and Gastro-Enteric Strongylosis in Sheep."

Authors:

STOJADINOVIC, V., Veterinary Center (Veterinarski centar), Nis

BATANJAC, D., affil. not given

POPOVIC, Lj., affil. not given

VACIC, Lj., affil. not given

ZIVIC, D., affil. not given

NEVENIC, V., Institute for Invasion Diseases of the Faculty for Veterinary Medicine (Institut za invazivne bolesti Veterinarskog fakulteta), Belgrade



POPOV, V.M., prof., doktor tekhn. nauk; RODIN, A.N., inzh.; BATANOGOV,  
A.P., inzh.; ETINGOV, S.I., inzh.

Performance of automatic fans and heating equipment at Northern  
Ural bauxite mines. Gor. zhur. no.4:48-52 Ap '65. (MIRA 18:5)

1. Vsesoyuznyy zaochnyy politekhnicheskii institut, Moskva (for  
Popov, Rodin, Batanogov). 2. Severoural'skiye boksitovyye rudniki  
(for Etingov).

BATANOGOV, V.V., inzhener; USPENSKIY, Yu.M., inzhener; FILARETOV, S.N.,  
~~inzhener.~~

Knyazhaya Guba Hydroelectric Power Station. Elektrichestvo no.7:  
6-10 J1 '56. (MLRA 9:10)

1. Leningradskoye otdeleniye Gidroenergoprojekta.  
(Knyazhaya Guba Hydroelectric Power Station)

ACCESSION NR: AP4040453

S/0025/64/000/004/0130/0131

AUTHOR: Batanov, A.

TITLE: Telephoto lens for a gun-type camera

SOURCE: Nauka i zhizn', no. 4, 1964, 130-131

TOPIC TAGS: photography, telephoto lens, camera, variable focus lens

ABSTRACT: Engineer S. Chepnin has designed a new telephoto lens for a 35-mm gun-type camera, which weighs only 300 g and is about half the size of the commercial Soviet telephoto lens, the "Tair-3". The focal length of the new lens varies from 250 to 300 mm and, with it, the lens light power which, on the average, is 1:6.3. Focusing is achieved by moving a diffusing lens element inside the lens barrel, not by moving the front element as is the case with conventional lenses. The home-made prototype is said to lack power of resolution but it is hoped that this lens soon will be produced commercially. Orig. art. has: 3 figures.

ASSOCIATION: none

Cord 1/2

ACCESSION NR: AP4040453

SUBMITTED: 00

SUB CODE: OP

DATE ACQ: 09Jun64

NO REF SOV: 000.

ENCL: 00

OTHER: 000

Card 2/2

BATANOV, A.

Second edition, unrevised ("Black-and-white, color, and stereoscopic photography" by V.M. Fridman. Reviewd by A.Batanov). Sov.foto 17 no.5:66-67 My '57.

(MLRA 10:7)

(Photography) (Fridman, V.M.)

BATANOV, A.

A supplementary means of expressiveness. Sov. foto 18 no.4:18-19  
Ap '58.

(Photography)

(MIRA 11:6)

**BATANOV, Aleksandr**

In cooperation with the picture editor. Sov.foto 20 no.6:15 Ja  
'60. (MIRA 13:7)

1. Fotokorrespondent Fotokhroniki TASS.  
(Journalism, Pictorial)

BATANOV, A. I.

PA 26744

UssR/Metals

Oct 1947

Manganese  
Ore Dressing

"Dressing Manganese Ore at the Polnomoyny Deposits,"  
A. I. Batanov, 3 pp

"Gornyy Zhurnal" No 10

The carbonate and oxide ores in these deposits are mixed with aluminum oxide or quartz-glaucocite sands. Dressing at the present time increases the quantity of carbonate ore which is mined. Author gives the chemical composition of the ores and schematic diagram of the dressing process. There are two main methods for increasing the quantity

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of carbonate ores: 1) burning and magnetic separation and 2) washing and magnetic separation. Since a factory is set up for dressing by the wet method at this deposit, however, it is recommended that the washing method be continued.

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YUDENICH, Grigoriy Ivanovich, doktor tekhnicheskikh nauk, professor;  
TROITSKIY, A.V., redaktor; SHUGUROVA, N.I., gornyy inzhener,  
retsensent; TKACHEV, D.M., gornyy inzhener, retsensent; KAZAKOVA,  
N.G., gornyy inzhener, retsensent; BATANOV, A.I., gornyy inzhener,  
retsensent; MIKHAYLOVA, V.V., tekhnicheskyy redaktor

[Dressing iron and manganese ores] Obogashchenie zheleznykh i  
margantsevykh rud. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry no  
chernoi i tsvetnoi metallurgii, 1955. 624 p. (MIRA 9:3)  
(Iron ores) (Manganese ores) (Ore dressing)

KOSTYUKOV, D.M., gornyy inzh.; BATANOV, A.I., gornyy inzh.

Krivoy Rog Northern Ore-dressing Combine. Gor. zhur. no.10:30-  
34 0 '61. (MIRA 15:2)

1. Krivbassproekt, Krivoy Rog (for Kostyukov).  
(Krivoy Rog Basin—Ore dressing)  
(Iron ores)

BATANOV, Aleksandr Ivanovich. Prinimali uchastiye: SYSOLYATIN, S.A.,  
kand. tekhn. nauk; ARASHKEVICH, V.M.; KVASKOV, A.P., doktor tekhn.  
nauk, retsenzent; GIBELEV, I.T., inzh., retsenzent; KRASNOV, G.V.,  
inzh., retsenzent; NIKOLENKO, S.V., inzh., retsenzent; SOL'VAR,  
A.V., inzh., retsenzent; CHURIKOV, A.N., inzh., retsenzent; ROMANOVA,  
L.A., red. izd-va; BOLDYREVA, Z.A., tekhn. red.; PROZOROVSKIY, Ye.G.,  
tekhn. red.

[Iron ore dressing] Obogashchenie rud chernykh metallov. Moskva,  
Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1961. 423 p.  
(MIRA 14: 9)

1. Obogatitel'nyye fabriki Gornogo upravleniya Magnitogorskogo me-  
tallurgicheskogo kombinata (For Gibelev, Krasnov, Nikolenko, Sol'-  
var, Churikov)

(Ore dressing)

BATANOV, D.M. tekhnoruk.

Structural defects of SG generators. Energetik 4 no.2:25 P '56.  
(MLRA 9:5)

(Electric generators)

BATANOV, D. N.

USSR/Electricity - Induction Motors

Mar 53

"From Letters to the Editors: Design Deficiencies in Electric Motors of Type AM6 From the Plant imeni Vladimir Il'ich," D. N. Batanov, Sr Electrician of a shop

From Energet, No 3, p 31

Writer commends pos qualities of AM6 motors, but calls to attention of Plant's designers and production engs certain design deficiencies, some common to all series, some applicable individually to series 117/8 or 126/4. Recommends, among other things, that rotor bars be welded, rather than soldered, to end rings.

248738

BATANOV, D.N., inzh.

Making vibration tables more reliable. Mekh.stroi. 16 no.11:27  
N '59. (MIRA 13:5)

(Vibrators)

BATANOV, G.M.; PETROV, N.N.

Emission of electrons from glass induced by helium and argon ions.  
Fiz.tver.tela 1 no.12:1856-1858 D '59. (MIRA 13:5)

1. Politekhnicheskiy institut im. M.I.Kalinina, Leningrad.  
(Electrons) (Glass)

26.2340  
AUTHOR: Batanov, G. M.  
TITLE: Secondary Emission From Glass No. 46 Under the Action of  
Positive Ions of Some Gases  
PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 9, pp. 2048-2057

TEXT: The author investigated the secondary emission from glass No. 46 under the action of positive ions of hydrogen, helium, and argon having energies from 200 to 2500 ev. For  $H_2^+$  and  $He^+$  ions, measurements were extended up to 30 kev. The circuit diagram of the experimental apparatus is shown in Fig. 1. The apparatus consisted essentially of an ion-producing arc, a mass spectrometer, and a spherical collector. The experiments were carried out at  $3 \cdot 10^{-6}$  torr. The experimental data are shown in Fig. 2 ( $I_2/I_1$  as a function of time and current-voltage characteristics); Figs. 3-5 (function  $\gamma(E_0)$ , where  $\gamma$  denotes the emission coefficient,  $E_0$  the initial energy of the ions); and Figs. 6-7 (function  $\gamma(v)$ ). The author

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Secondary Emission From Glass No. 46 Under  
the Action of Positive Ions of Some Gases

S/181/60/002/009/004/036  
B004/B056

obtained the following results: During the irradiation of glass No. 46 with positive H, He, and Ar ions, all ions cause an impact-induced emission of electrons, and the helium ions, in addition, also a field-induced emission of electrons. The electrons are emitted from the occupied bands of the glass. The values for  $\gamma$  and  $d\gamma/dE_0$  were considerably higher than in metals.

In hydrogen and helium ions,  $\gamma = \gamma(v)$  is a linear function; in argon ions, this is the case at  $\gamma = \gamma(E_0)$ . For the impact-induced emission of electrons by argon ions there is a threshold. Argon ions having an energy of less than 200 ev cause no emission. At high velocities  $v$  of the

$H_2^+$  and  $He^+$  ions,  $d\gamma/dv$  is not constant. The author thanks Professor M. A. Yeremeyev for supervising the investigations, Assistant N. N. Petrov, and the student V. P. Murashkin for their cooperation. There are 7 figures and 12 references: 7 Soviet, 3 US, 1 British, and 1 German.

ASSOCIATION: Leningradskiy politekhnicheskii institut  
(Leningrad Polytechnic Institute)

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Secondary Emission From Glass No. 46 Under  
the Action of Positive Ions of Some Gases

81063  
S/181/60/002/009/004/036  
B004/B056

SUBMITTED: February 12, 1960

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20134

S/181/61/003/002/032/050  
B102/B201

9.4300 (and 1043, 1143)

AUTHOR: Batanov, G. M.

TITLE: Ion-induced electron emission from NaCl and KCl single crystals during the bombardment by lithium and potassium ions

PERIODICAL: Fizika tverdogo tela, v. 3, no. 2, 1961, 558-566

TEXT: This is a report of studies of ion-induced electron emission from NaCl and KCl single-crystal surfaces conducted with the method of single pulses. The block diagram of the experimental setup is shown in Fig. 1; 5-15  $\mu$ sec pulses at first accelerated the ions to 50-150 ev; these ions were then slowed down or accelerated between the first and the second electrode, and through an aperture and a collector hit the specimen ( $\approx 0.5$  mm thick). The measuring setup recorded the primary current, the current in the target circuit and that in the collector circuit. The current pulse signal was led over to a 25-V (25-I) oscilloscope via a linear amplifier, and its magnitude was determined on the screen reticle ( $\pm 10\%$ ). The system allowed the measurement of currents

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Ion-induced electron emission ...

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differing up to the 160-fold. The ion beam hitting the center of the target (7 mm in diameter) had an intensity of some hundreds of microamperes (energy spread in the beam:  $\pm 4$  ev). The pressure in the system ranged from 1 to  $3 \cdot 10^{-7}$  mm Hg. The dependence of the electron-emission coefficient  $\gamma$  on the energy  $E_0$  of the primary ions was investigated first. For NaCl bombarded by Li ions,  $\gamma(E_0)$  is almost linear, and  $\gamma$  is about 5 times as large as for metallic surfaces. Also  $d\gamma/dE_0$  is, with  $\approx 2$  el/ion.kev, large compared with the corresponding derivative for metals. The steepness of the  $\gamma(E_0)$  curves proved to depend on whether the crystals were just cleaved-off, or whether they had been held in the air for two days (at backing temperatures of 100, 200, and 300°C). A temperature dependence of  $\gamma$  could not be established (within the measuring accuracy in the range of 100-300°C). Also specimens were examined that had been bombarded with 2-kev ions during 100 min (pulse duration 30  $\mu$ sec), and during 30 min with 800-cps pulses (duration 300  $\mu$ sec) (current density  $2 \cdot 10^{-7}$  a/cm<sup>2</sup>). After this treatment,

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Ion-induced electron emission ...

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measurements were made at two different backing temperatures (200 and 300°C). No temperature dependence of  $\gamma$  was established here either. The pre-treatment had the effect that some sort of "activation" of the crystal surface was observable with respect to the ion-induced electron emission. Volt-ampere characteristics were taken at a current density of  $5 \cdot 10^{-8} \text{ a/cm}^2$ . It was found in both NaCl and KCl that the curves  $I_2/I_1 = f(V_k)$  were first above and in parallel to the negative  $V_k$  axis, but that they dropped into the negative ( $I_2/I_1$ ) region at small negative  $V_k$  values, the deeper the higher  $E_0$  was. For  $V_k > 10\text{-}20 \text{ v}$  the curves (after a break) again were parallel to the  $V_k$  axis (below).  $\gamma$  was found in all cases to be rising linearly with  $E_0$ . Fig. 7 shows a somewhat unusual volt-ampere characteristic for KCl crystals bombarded with K ions;  $E_0 = 400 \text{ ev}$  (●), 1 kev (○), 2 kev (x), and 3 kev (▲). Summing up: for the dielectrics investigated,  $\gamma$  and  $d\gamma/dE_0$  are a multiple of the corresponding values of metals that have not been subjected to any

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Ion-induced electron emission ...

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heat treatment.  $\gamma(E_0)$  has a linear course; there exists a certain threshold energy of the ions (150-300 v) below which no electron emission could be observed. This threshold energy is, for the materials investigated, by some orders of magnitude lower than that applying to pure high-melting metals. The main part of electrons ejected by the ions has an energy of  $\leq 15$  ev. The ion-induced electron emission is considerably influenced by the adsorption of gases and water vapor on the surface and prior ion bombardment. Professor M. A. Yeremeyev and I. A. Yeletskaya are thanked for their assistance. There are 7 figures and 17 references: 11 Soviet-bloc and 4 non-Soviet-bloc.

ASSOCIATION: Leningradskiy politekhnicheskii institut im M. I. Kalinina  
Leningrad (Leningrad Polytechnic Institute imeni M. I.  
Kalinin, Leningrad)

SUBMITTED: June 15, 1960

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20118

S/181/61/003/002/046/050  
B102/B201

26.4531

AUTHOR: Batanov, G. M.

TITLE: Ion-induced ion emission from sodium chloride single crystals  
bombarded by lithium ions

PERIODICAL: Fizika tverdogo tela, v. 3, no. 2, 1961, 642-650

TEXT: A better insight into the surface properties of solid bodies can be gained by studying the ion-induced ion emission. The present paper is devoted to this problem. The Li-ion-induced ion emission from NaCl single crystals has been studied along with the effect of adsorbed gases and water vapor upon this emission, using the single-impulse method. Method, device, and experimental conditions are described on p. 534 of the present number of the periodical. The NaCl specimen introduced into the device was heated to 350°C at  $1-3 \cdot 10^{-7}$  mm Hg. The voltage difference between collector and target ranged between 30 and 60 v in the  $K(E_0)$  measurement ( $K$ , emission coefficient,  $E_0$ , ion energy). The single-impulse duration was around 15  $\mu$ sec. Results are presented diagrammatically. Fig. 1 shows the typical course of  $K(E_0)$  curves at a current density in the beam of  $\sim 2 \cdot 10^{-7}$  a/cm<sup>2</sup> and a temperature

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Ion-induced ion ...

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of the target backing of 300°C (K proved to be practically independent of this temperature). The minimum of the  $K(E_0)$  curves is around  $E_0 \approx 300$  ev ( $K = 12-14\%$ ). The spectrum of the secondary particles and their composition was examined by also measuring the volt-ampere characteristics at 100 and 1000-ev ion energy; Fig. 4 shows the latter. When intercomparing these two one may see that the secondary particles attain some sort of saturation at  $V_k \approx +10$  ev. The effect of air- or water vapor adsorption on NaCl crystals upon the ion emission was studied by allowing just cleft single crystals to stand in the air for about two days and subsequently to be heated like the others to 350°C in vacuo. Fig. 5 shows the  $K(E_0)$  curves at 300°C prior to (1) and after (2) ion bombardment. Summing up: the coefficient K of the ion-induced ion emission from NaCl single crystals is of the same order as for tempered metals. The course of the curves  $K(E_0)$  is in a certain range (30-500 ev) the same as for metals in the 100-1500-ev range. At low energies (<500 ev) the coefficient K can be even identified with the reflection coefficient of lithium ions. In the range above 500 ev the problem of the nature of secondary particles cannot be unequivocally solved, but they may still be regarded as being for their most part positive sodium ions ejected

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B102/B201

Ion-induced ion ...

from the target material. It was inferred from the volt-ampere characteristics that the principal mass of the reflected lithium ions had a relatively low energy (up to 17 ev). Also in the case of an energy of primary ions amounting to some kev, the energy of secondary ions does not exceed 20 ev. A study of the temperature dependence, of the effect of adsorption, and the effect of a prior ion bombardment upon the course of the  $K(E_0)$  curves showed that the crystal structure of the specimen surface changed with adsorption and ionic etching, and that, furthermore, the adsorbed layer had a poor stability. At  $E_0 < 300$  ev the course of the  $K(E_0)$  curves was independent of the structure of the specimen surface. Professor M. A. Yeremeyev, who supervised the work, is thanked for advice and interest, I. A. Yeletskaia for having made the measurements, and N. N. Petrov for his discussions. V. I. Pavlov and S. V. Starodubtsev are mentioned. There are 5 figures and 9 references: 6 Soviet-bloc and 2 non-Soviet-bloc. 4

ASSOCIATION: Leningradskiy politekhnicheskii institut im. M. I. Kalinina  
(Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED: July 7, 1960

Card 3/5

9,3120

S/058/61/000/010/095/100  
AC01/A101

AUTHOR: Batanov, G.M.

TITLE: On employing the pulse method for studying secondary emission from dielectrics under the action of positive ions of gases

PERIODICAL: Referativnyy zhurnal. Fizika, no. 10, 1961, 286, abstract 10Zh22 ("Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t", 1960, no. 9, 92 - 100)

TEXT: The author attempted to apply the method of short pulses, whose reciprocal of the pulse duty factor is  $\sim 10^4$ , to studying secondary emission from solid dielectric specimens subjected to hydrogen ion bombardment. Secondary emission from alundum and glass was studied preliminarily. From the results of this study a conclusion has been drawn that the application of the method proposed has the following advantages: elimination of charging of the specimens, elimination of changes in the state of the surface during bombardment, and possibility of identification of secondary particles. ✓B

[Abstracter's note: Complete translation]

V. Shustrov

Card 1/1

9,3120 (1003, 1138, 1160)

32914

S/194/61/000/011/041/070  
D256/D302

AUTHORS: Batanov, G.M. and Petrov, N.N.

TITLE: An investigation of metal ionic-electron emission

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 11, 1961, 3-4, abstract 11 G23 (Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, 1960, no. 9, 101-107)

TEXT: The ionic-electron emission was investigated using short single pulses in an instrument with a spherical collector and a screen grid concentric with the collector. The instrument was evacuated using two mercury pumps, the measurements being taken at  $\sim (1 \text{ to } 3) \times 10^{-7}$  mm Hg. The temperature of the target did not exceed 1300°C. The metallic target was bombarded with ion pulses of 4  $\mu$  sec and of longer duration at various rates of repetition (from single pulses to 20 per sec and more). It appeared from investigating the volt-amp. curves of the instrument, obtained for various

Card 1/3

An investigation of metal...

32911

S/194/61/000/011/041/070  
D256/D302

experimental conditions, that the coefficient of the ionic-electron emission  $\gamma$  can be determined from curves for two values of the collector potential. Experimental volt-amp curves are presented for  $K^+$ -ion bombardment of a tungsten target heated to  $\sim 1000^\circ C$ . Using ion beams modulated with fast (few  $\mu sec$  and less) square pulses, the time of flight of the slow secondary ions from the target to the collector approaches the duration of the primary pulse. This effect shows on the curves by a decrease in the secondary current at low positive values of the grid potential. For fast pulses a characteristic plateau was observed, its width being greater for the heavier bombarding ions, e.g. greater for  $K^+$  than  $Li^+$ . It is obvious that the presence of a plateau can assist in obtaining a more accurate estimation of the threshold energy of the ionic-electron emission. The presented data of investigation of the function  $\Phi = f(t)$  for  $Li^+$  ions show that even for  $\sim 1000$  eV energy of the  $Li^+$  ions the value of  $\gamma$  is nearly zero. Some ionic-ion emission data were obtained using  $K^+$  and  $Li^+$  ion bombardment of a metallic

Card 2/3

32914

S/194/61/000/011/041/070  
D256/D302

An investigation of metal...

target heated to 1300°C at  $E \leq 1.5$  keV the coefficient of ionic-  
ion emission increases with lowering E, in agreement with the re-  
sults obtained by other authors. 6 references. [Abstracter's  
note: Complete translation]

Card 3/3

38939

24.7000

S/181/62/004/007/010/037  
B102/B104AUTHOR: Batanov, G. M.TITLE: Charged-particle emission from alkali halide crystals when  
bombarded with potassium ions

PERIODICAL: Fizika tverdogo tela, v. 4, no. 7, 1962, 1778 - 1787

TEXT: Secondary emission of charged particles from NaF, NaCl, KCl, KBr single crystals, glass no. 46, and nickel induced by ion bombardment, was studied experimentally. The secondary emission coefficients were determined as a function of primary particle energy and data were got for the threshold energy of the electron knock-out and the width of the energy spectrum of these electrons. A quasispherical capacitor with a grid (Batanov, FTT, 3, 558, 1961; 3, 642, 1961; 2, 2048, 1960) was used as time-of-flight mass analyzer of the secondary particles. The primary ion beam was made to undergo square-pulse modulation (frequency 1-10 cps, pulse period 2-8  $\mu$ sec), potassium aluminosilicate being used as a source. The secondary current pulses were made visible with a 25- $\mu$  (25-I) oscilloscope.  $\gamma(E_0)$ , the energy dependence of the electron knock-out coefficient, is

Card 1/3

Charged-particle emission ...

S/181/62/004/007/010/037  
B102/B104

linear for KCl, KBr, and NaCl, but for NaF it rises with a slightly positive curvature;  $K_-(E_0)$  rises almost linearly if  $E_0 \lesssim 0.6$  kev, if  $E_0 \gtrsim 7.5$  kev, saturation is reached; only the NaCl curve slightly declines. The course of  $K_+(E_0)$  largely depends on the target material. KCl, NaCl, KBr and NaF have a minimum at about 0.2 kev after which they rise with a tendency to saturation above 1 kev; nickel, glass and NaF tend towards an exponential decrease prior to the bombardment; with glass the secondary emission of positive ions drops to zero at a primary ion energy of about 1.2 kev. The characteristic shape of the curves  $K_+(E_0)$  is ascribed to two effects being superimposed: cathode sputtering of the crystals and primary-ion reflection. The mean mass numbers, the threshold energies and  $dy/dE_0$  are determined numerically. The mass numbers correspond to the ion components of the crystals. The threshold energies are between 0.14 and 0.71 kev,  $dy/dE_0$  between 0.07 (Ni) and 2.4 el/ion·kev (KCl).. More than 98% of the secondary electrons have energies  $\leq 10$  ev; the width of their energy spectrum does not change notably even if  $E_0$  is changed tenfold. There are 4 figures and 2 tables.

Card 2/3

Charged-particle emission ...

S/181/62/004/007/010/037  
B102/B104

ASSOCIATION: Leningradskiy politekhnicheskii institut im. M. I. Kalinina  
(Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED: January 30, 1962

Card 3/3



L 10317-63

APFIC/ASD/ESD-3/SSD--Ps-4/Pab-4/Pq-4--AT/WH/IJP(C)

ACCESSION NR: AP3000568

S/0109/63/008/005/0852/0860

AUTHOR: Batanov, G. M.

TITLE: Secondary emission of dielectrics bombarded by positive ions / Report of the Tenth Conference on Cathode Electronics held in Tashkent, November 1961/

SOURCE: Radiotekhnika i elektronika, v. 8, no. 5, 1963, 852-860

TOPIC TAGS: secondary emission of dielectrics, glass, muscovite, alkaline-earth-metal halides

ABSTRACT: Secondary emission from No. 46 glass, aluminum oxide, and monocrystals of muscovite and LiF, NaF, NaCl, KCl, KBr bombarded by positive ions was measured; the ion current was modulated by single pulses of 2 to 16-microsec duration. Extensive interpretation of physical phenomena accompanying the ion-electron and ion-ion emission of the above dielectrics is given in the article. Threshold energy of ions for the above materials is presented in Table 1 (Enclosure 1). Effect of initial energy or velocity of bombarding particles on the coefficient of kinetic dislodging of electrons is given in Table 2 (Enclosure 2). "I am expressing gratitude to M. A. Yeramseyev for his constant interesting and valuable advice contributed to the conduct of this study." Orig. art. has: 3 figures and 2 tables.

Card 1/4/

ASSN: Leningrad Polytechnic Inst.

ACCESSION NR: AT4025317

S/0000/63/000/000/0263/0269

AUTHORS: Batanov, G. M.; Ivanovskiy, M. A.; Fedyanin, O. I.; Shpigel', I. S.

TITLE: Use of a luminescent probe to record a moving plasma

SOURCE: Diagnostika plazmy\* (Plasma diagnostics); sb. statey. Moscow, Gosatomizdat, 1963, 263-269

TOPIC TAGS: plasma, plasma diagnostics, luminescent probe, plasmascope, moving plasma configuration, plasma electron image, plasma ion image, plasma configuration

ABSTRACT: The luminescent probe ("plasmoscope") method developed by L. I. Yelizarov and A. V. Zharinov and reported by them at the Nuclear Fusion Conference in Salzburg (4--9 September 1961) is used to study the transverse motion of a plasma jet in a magnetic field in the presence of translational velocity perpendicular to the sur-

Card 1/A2

ACCESSION NR: AT4025317

face of the screen. The results are compared with data obtained by local density measurements. The characteristics of the apparatus and of the plasma are described. It is concluded that at a plasma density  $\sim 10^{11} \text{ cm}^{-3}$  and a translational beam velocity  $\sim 10^7 \text{ cm/sec}$  the luminescent probe yields correct information on the plasma configuration in a longitudinal magnetic field. Reflection of the plasma from the screen surface does not distort the results, and there is no luminor persistence. The density of the measured plasma is not confined to the condition that the grid cell dimension be smaller than the Debye radius. To obtain a sharp image it is merely necessary that the pulse on the grid be of sufficient magnitude. If the screen is not illuminated by the plasma radiation, it is possible to obtain an ion image without using electron secondary emission. Orig. art. has: 6 figures.

ASSOCIATION: None

Card 2/42

ACCESSION NR: AP4037614

S/0056/64/046/005/1915/1917

AUTHOR: Batanov, G. M.; Ivanovskiy, M. A.; Shipilov, I. S.

TITLE: Particle losses and configuration of plasma jet moving through a curvilinear magnetic field

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 5, 1964, 1915-1917

TOPIC TAGS: plasma, plasma in curved field, plasma in homogeneous field, plasma particle loss, plasma jet nucleus, plasma jet tongue, plasma ion distribution

ABSTRACT: Unlike in earlier investigations, the parameters of a plasma jet passing through a curvilinear magnetic field were studied further by letting the jet continue to move in a homogeneous magnetic field. The plasma jet moved from the gun first in a homogeneous field (3 kOe) for 50 cm, then through a curved field of 6 cm radius, and then again through a 120 cm homogeneous field (1 kOe). The plasma density was approximately  $10^{12} \text{ cm}^{-3}$  and the electron temperature 5 -- 10 eV. The measurement procedures are described briefly. The tests have shown that some 1--2 microseconds following its passage through the curved field the plasma jet acquires a "tongue" in which the plasma drifts towards the chamber walls, along with the

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ACCESSION NR: AP4037614

main "nucleus" of the plasma jet, which continues to move along the magnetic field and has a high density (dielectric constant close to 1000). This is in qualitative agreement with the dependence of the ion distribution on the magnetic field (cf. figure) and is confirmed by measurement of the electric field near the plasma jet "nucleus." Orig. art. has: 2 figures.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR (Physics Institute, AN SSSR)

SUBMITTED: 03Jan64

ENCL: 01

SUB CODE: ME

NR REF SOV: 002

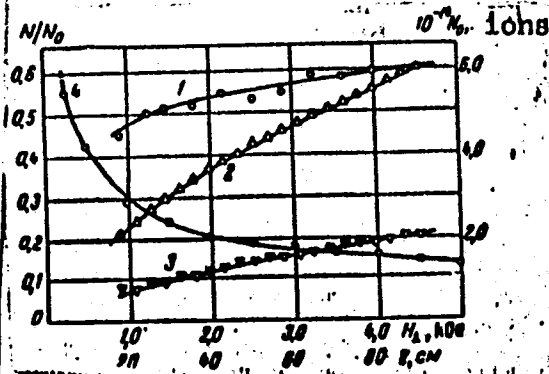
OTHER: 004

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(2/3)

ACCESSION NR: AP4037614

ENCLOSURE 01



Curve 1 - total number ( $N_0$ ) of ions

injected by the gun into a homogeneous magnetic field  $H_1$ , as a function of the magnitude of the field  $H_1$ .

Curves 2 and 3 - ratio  $N/N_0$  ( $N$  -

total number of ions passing through the cross section of the chamber at distances 10 and 80 cm from the turn)

as a function of  $H_1$ , for  $H_1/H_0 = 3$ . Curve 4 - variation on  $N/N_0$  along the chamber, for  $H_1/H_0 = 3$  and  $H_1 = 2.7$  kOe

Card 3/3

L 33165-65 EPA w)-2/EWT(1)/EEC(t)/EPA(sp)-2/T/EWA(m)-2 Po-4/Pi-4/Pz-6/Pab-10  
IJP(c) AT

ACCESSION NR: AP5005224

8/0057/65/035/002/0242/0252

AUTHOR: Batanov, G.M.; Ivanovskiy, M.A.; Shpigel', I.S.

TITLE: Motion of a plasma jet in a toroidal magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.2, 1965, 242-252

TOPIC TAGS: plasma jet, plasma polarization, plasma stability, inhomogeneous magnetic field

ABSTRACT: The motion in a magnetic field with strongly curved lines of force of the plasma bursts from a 5 kV spark plasma gun, with molybdenum electrodes and mica insulation, was comprehensively investigated, using different techniques. The inhomogeneous magnetic field was produced in the intersection region of a 12 cm diameter, 180 cm long main tube and a 5 cm diameter, 50 cm long side tube intersecting it at right angles. Longitudinal magnetic fields were maintained in both tubes by solenoids; in most of the experiments the field was 1.2 kOe in the main tube and 3.6 kOe in the side tube. The plasma gun was mounted at one end of the side tube. The bursts from this gun were long compared with the radius of curvature of the magnetic lines of force in the intersection region, and they according-

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ACCESSION NR: AP5005224

ly behave as jets. The cross section configuration of the plasma jet in the uniform field region was observed with a luminescent screen provided with a pulsed ion accelerating grid. The ion distribution was measured with a 3 mm diameter screened probe, and the total number of ions was measured with a large screened probe. The electron temperature and electric field in the plasma were measured with a miniature double probe and the polarization of the jet was measured with a hemispherical double grid probe filling the entire cross section of the tube. The electron density near the gun was determined by the microwave cut-off method. In a uniform magnetic field of 4 kOe the electron density at 2 to 8 cm from the gun remained above  $10^{12} \text{ cm}^{-3}$  for 50 to 80 microsec, and at 18 cm from the gun, for about 13 microsec. The electron temperature was between 5 and 10 eV, the total number of ions in a burst was approximately  $5 \times 10^{14}$ , and the velocity of the leading edge of the jet was  $2 \times 10^7 \text{ cm/sec}$ . It was found that a small dense core of the jet followed the magnetic lines of force with some accuracy, but that a tongue of plasma was ejected transversely to the field from the outer portion of the jet and along its entire length. The polarization field developed only in the outer region of the jet, and in the core the initial radial electric field was maintained. The reason for this is obscure. The velocity with which plasma was ejected transversely to the

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L 33165-65

ACCESSION NR: AP5005224

magnetic field decreased with increasing magnetic field strength. Providing the side tube with a conducting liner did not result in an appreciable decrease in the polarization of the jet. This is ascribed to the small density of the ion current flowing in the conducting wall. Orig.art.has: 8 figures.

ASSOCIATION: none

SUBMITTED: 06Apr64

ENCL: 00

SUB CODE: ME, E/M

NR REF SOV: 003

OTHER: 005

Card 3/3

L 35592-65

EPA(W)-2/DT(1)/EEG(t)/EPA(sp)-2/4/EPA(m)-2  
LJP(c)

Pl-4/Pa-4/Pa-6/Pa-10

ACCESSION NO: 100765

3/0020/65/160/006/1293/1295

AUTHORS: Batanov, G. M.; Barozhetskii, M. S.; Grebenshchikov, S. Ye.; Zverev, N. M.; Popryadukhin, A. P.; Rabinovich, M. S.; Sbitnikova, I.S.; Shpigel', I.S.

TITLE: Magnetic surfaces and plasma containment in the helical field of a stellerator with external injection

SOURCE: AN SSSR. Doklady, v. 160, no. 6, 1965, 1293-1295

TOPIC TAGS: stellerator, plasma trapping, plasma injection, magnetic field, helical magnetic field, resonance excitation, controlled fusion

ABSTRACT: Magnetic surfaces and external injection techniques in a 10 000-oersted longitudinal field stellerator (1200 mm large diameter and 100 mm small diameter) are discussed briefly. The parameter  $\xi$ , equal to the ratio fundamental harmonic of field over longitudinal field, varies within the limits of 0.71-0.33, and the helical winding is at  $45^\circ$ . To verify the existence of magnetic surfaces, a pulsed electron gun is used as well as a  $3 \times 3 \text{ mm}^2$  probe. The results show an unperturbed magnetic surface at  $\xi = 0.40$ , a resonance excitation of the second kind at  $\xi = 0.37$  with an external undisturbed surface, and an internal undisturbed

Card 1/2

L 35592-65

ACCESSION NR: AP5007656

surface with a resonance of the third kind at  $\epsilon = 0.39$ . The external injection was accomplished by means of four plasma spark injectors operating simultaneously for  $0.4 \mu$  sec. Oscillograph studies indicate that the time for attaining a steady state distribution in density across the chamber corresponds to  $R/v_T$ , where  $R$  is the large chamber radius and  $v_T$  is the ionic thermal velocity. Comparing density distributions in the helical field to those of a toroidal field, the distinct influence of the former on the density distribution becomes obvious. Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 09Jul64

ENCL: 00

SUB CODE: GP

NO REF SOV: 004

OTHER: 002

Card 2/2

ACC NR AT6033031

SOURCE CODE: UR/2504/6 132/000/0007/0019

AUTHOR: Batanov, G. M.; Grebenshchikov, S. Ya.; Ivanovskiy, M. A.; Soitnikova, I. S.  
Fedyanin, O. I.; Shpigel', I. S.

ORG: none

TITLE: Injection of a plasma into a closed magnetic trap with a two phase helical field

SOURCE: AN SSSR. Fizicheskiy institut. Trudy, v. 32, 1966. Fizika plazmy (Plasma physics), 7-19

TOPIC TAGS: plasma injection, magnetic trap, helical magnetic field

ABSTRACT: A plasma injected into a closed magnetic trap must have the following properties: 1) it must be sufficiently homogeneous in composition (hydrogen or deuterium), it must contain a minimum number of impurities, and the percent ionization must be close to 100; 2) its temperature must be high enough to exclude losses due to normal diffusion in the magnetic field; 3) it must have a high conductivity to eliminate polarization due to the toroidal effect; 4) the plasma, filling the toroidal trap, must not contain marked longitudinal electric fields. The article presents the results of an investigation of several methods of injection. The experiments were carried out in laboratory scale models. The first method tested was injection of the

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ACC NR: AT6033031

plasma into a "programmed" magnetic field; this method is based on the irreversible change in the configuration of the magnetic field into a determined region of a closed field. The behavior of a plasma was studied under rapid compression by an external azimuthal magnetic field. The method proposed in the article involves injection of the plasma along the tube of the lines of force of a magnetic field extracted from the volume of the trap. Particular attention is paid to the problem of the movement of a sufficiently dense plasma ( $n = 10^{12} - 10^{13} \text{ cm}^{-3}$ ) in a curvilinear magnetic channel. The article concludes with a consideration of the collision of plasma flows in the transverse magnetic field of the trap. "In conclusion the authors consider it their duty to thank M. S. Rabinovich for his continuing interest in the progress of the work and for his helpful discussions of the experimental results and of the selection of the basic directions of the investigation. They also thank all their coworkers who took part in setting up the physical equipment and in carrying out the experiments: Ye. P. Aleksandrov, M. S. Bereshetskiy, N. M. Zverev, Yu. G. Krutikov, N. V. Perov, as well as all the workers of the workshop headed by V. P. Solov'yev." Orig. art. has: 13 figures.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 015/ OTH REF: 007

Card 2/2 *670*

BATANOV, M. V. ; PETROV, N. V.

• "Steel Springs" (Ocelove Pruziny) in Czech. translated from Russian  
1950

D-163621, 29 Jan 55

BATANOV, M. V. and PETROV, N. V.

Stal'nye pruzhiny; tekhnologiya izgotovleniia i zashchita ot korrozii.  
Moskva, Mashgiz, 1950. 213 (i.e. 231) p. diagrs.

Bibliography: p. 230.

Steel springs; technique of production and protection against corrosion.

DLC: TJ210.B3

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library  
of Congress, 1953.

BATANOV, N., kapitan; KHRAMOV, L., starshiy shturman; IVANOV, B., vtoroy shturman; SAMOSTROV, G., tretiy shturman; MANZHULA, A., chetvertyy shturman

Supporting Captain Rusanov's proposals. Mor. flot 24  
no.2:23 F '64. (MIRA 18:12)

1. Teplokhod "Rovno".



BATANOV, P., prepodavatel' (g.Irbit)

"Manual for automobile drivers" by A.D. Zhabin. Reviewed by  
P. Batanov. Za rul. 20 no.12:29 D '62. (MIRA 15:12)  
(Automobile drivers—Education and training)  
(Zhabin, A.D.)

BATANOV, S.I.; BINDAS, B.D., gornyy inzhener.

Gravity transportation in hydraulic excavation. Gor.shur.no.4:  
12-13 Ap '56. (MIRA 9:7)

1. Nachal'nik proizvodstvennogo otdela Gornego upravleniya  
Semilukskego gosupernogo zaveda (fer Batanov).  
(Latnaya--Hydraulic mining)

BATANOV, S.I.; LUKINSKIY, G.I.

Use of recirculating water and formation of dump piles in the hydraulic removal of the overburden. Ogneupory 27 no.4:161-165 '62. (MIRA 15:4)

1. Semilukskiy ogneuporny, zavod (for Batanov). 2. Moskovskiy institut stali (for Lukinskiy).
- (Hydraulic mining--Water supply)

PAVLOVSKIY, V.; OSTAPENKO, K.; MENDELEVICH, M.M.; BATANOV, Yu.P.; ANTONETS,  
G.I.; ONIPENKO, N.I.; GORCHAK, G.K.; ANDRIYASH, L.T.; AMELIN, I.;  
IGNATOVICH, N.; CHIZHOV, A.; DALMATOV, M.K.; SIKORSKIY, A.N.; KOVA-  
LENKO, Ya.R.

Information and brief news. Veterinariia 40 no.9:83-93 S '63.  
(MIRA 17:1)

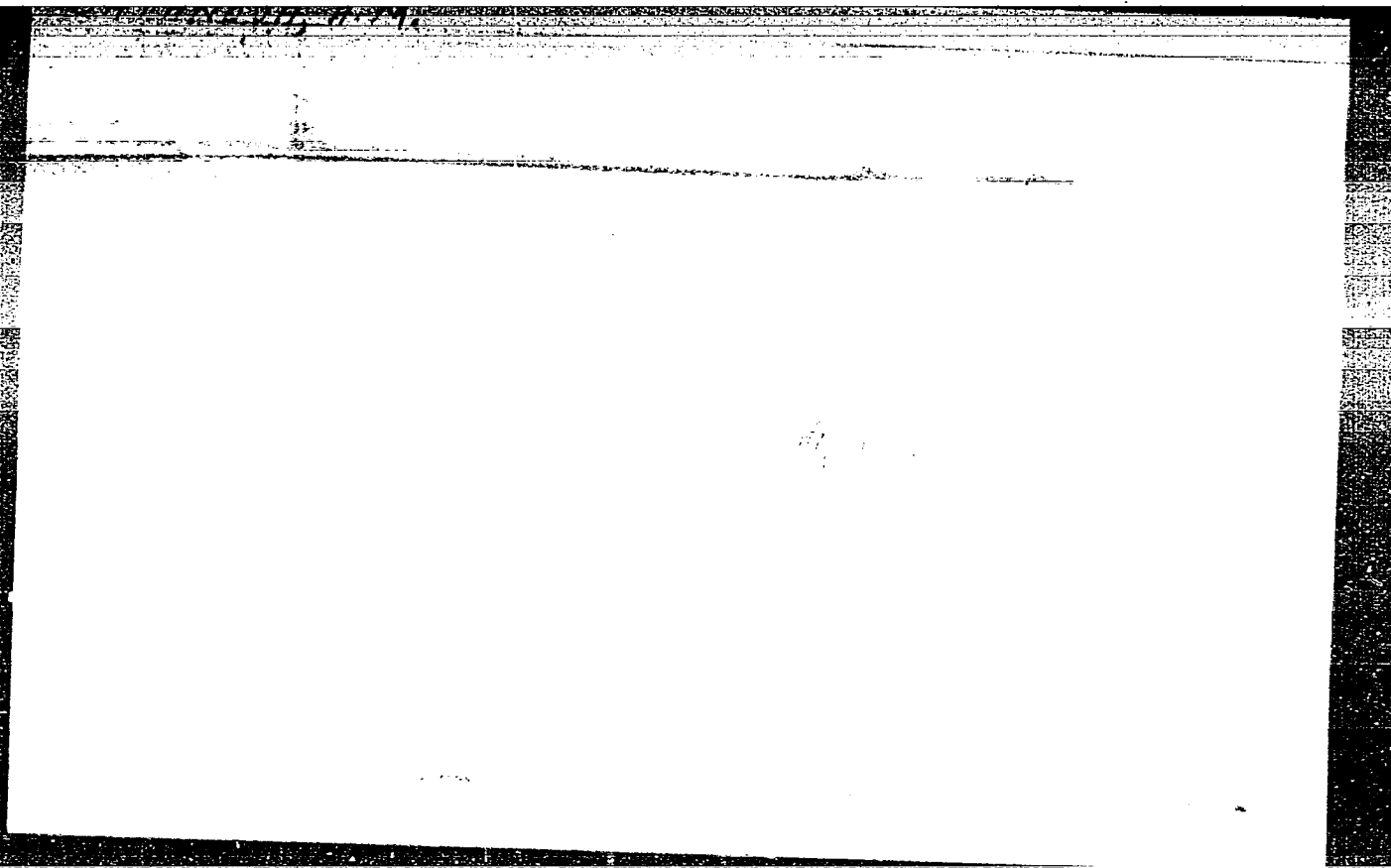
BATANOVA, A. M.

Dissertation: "Synthesis of Zirconium Mullite Technical Stones and Study of Their Properties." Cand Tech Sci, Moscow Chemicotechnological Institute, Moscow, 1953. (Referativnyy Zhurnal-Khimiya, No 10, Moscow, May 54)

SO: SUM 318, 23 Dec 1954

"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000203920011-3



APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000203920011-3"

"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000203920011-3

Doylehouse, H.M.

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000203920011-3"

ORMONT, N.N.; BATANOVA, A.M.

Petrographic investigation of the relation between the structure of  
cast stone and the conditions of crystallization at the Moscow Stone  
Casting Plant. Vest.Mosk.un.Ser.biol., pochv., geol., goeg. 13 no.3:  
163-171 ' 58. (MIRA 12:1)

1. Kafedra petrografii Moskovskogo gos. universiteta.  
(Moscow--Stone, Cast)



CHETVERIKOV, S.D.; BATANOVA, A.M.

Possibilities for industrial use of metamorphic rocks of the  
southern Baikal region. Vest.Mosk.un.Ser.4: Geol. 15 no.3:  
58-70 My-Je '60. (MIRA 13:8)

1. Kafedra petrografii Moskovskogo universiteta.  
(Baikal region--Rocks, Crystalline and metamorphic)

L 25669-65 EWT(1)/EEC(b)-2/T IJP(c)  
ACCESSION NR: AP5001044

S/0212/64/000/005/0070/0080

AUTHOR: Batanova, A. M.

Ormont, N. N.

26  
25  
B

TITLE: The skeletal forms of certain silicates and their connection with the structure. Part I

SOURCE: Moscow. Universitet. Vestnik. Seriya 4. Geologiya, no. 5, 1964, 70-80

TOPIC TAGS: mineralogy, crystallography, crystal growth, silicate structure, aluminosilicate, skeletal crystal, dendritic crystal

ABSTRACT: The authors investigated the skeletal and dendritic forms of various silicates, including nesosilicates and olivines (forsterite, fayalite, and tephroite), inosilicates (diopside and wollastonite), cyclosilicates, phyllosilicates, and tectoaluminosilicates. They found that the formation of skeletal crystals depends upon a number of factors, primarily differences in rates of growth in different directions, and that this in turn depends upon structural and physico-chemical factors which should be considered in their totality. Many physico-chemical factors (viscosity, impurities, surrounding medium, etc.) affect the shape of skeletal and dendritic formations. Skeletal crystals appear to be formed when

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ACCESSION NR: AP5001044

crystallization occurs under difficult conditions and viscosity increases rapidly. The presence of costal and dendritic forms in one specimen, a slide of idiomorphic full-faceted crystals, transitional forms, and external and internal skeletal crystals indicate that at some limiting viscosity, which varies for each crystal structure, full-faceted polyhedra are replaced by skeletal and dendritic forms. The dependence of the forms of skeletal crystals upon their structure is shown in the formation of characteristic forms of growth; this was demonstrated by determinations of the orientation of crystallographic lines by optical investigation of synthetic silicates. Under laboratory conditions, skeletal and dendritic forms of nesosilicates (olivines), inosilicates (diopside and wollastonite) and cyclosilicates (pseudowollastonite) were obtained comparatively easily. Micas form thin plates. No typical skeletal crystals of fluorophlogopite could be obtained. Skeletal crystals grow along crystallographic lines, ribs, and at the peaks of corners. The authors describe the forms observed for each mineral in some detail. The synthesis of various skeletal crystals, both silicates and other compounds, may facilitate the correct identification of industrial stones. Orig. art. has: 10 figures and 1 table.

ASSOCIATION: Kafedra petrografii, Moskovskiy gosudarstvennyy universitet  
(Petrography department, Moscow state university)

Card 2/3

CHETVERIKOV, S.D.; SYUN DA-KHE [Hsiung Ta-ho]; BATANOVA, A.M.

Some characteristics of the crystallization of haplobasaltic melts.  
Vest.Mosk.un. Ser.4: Geol. 20 no.2:21-29 Mr-Apr '65.

(MIRA 18:5)

1. Kafedra petrografii Moskovskogo universiteta.

BATANOVA, G.P.; SOLONTSOV, L.P.

Stratigraphic profile of Devonian deposits of Shurgurovo District  
in the Tatar A.S.S.R. Izv.Kazan.fil.AN SSSR Ser.geol.nauk. no.1:5-  
10 '50. (MLRA 10:1)  
(Shugorovo District--Geology, Stratigraphic)

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